SID Policy on Quality Management
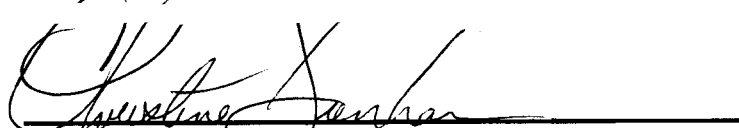
April 26, 2004

California Health and Human Services Agency Data Center

Revision History

REVISION	DATE OF RELEASE	PURPOSE
Initial Draft	April 26, 2004	Initial Release

Approval

CHRISTINE DUNHAM, SID ASSISTANT DIRECTOR

1   INTRODUCTION

1.1   Adoption of SID Policy

As part of its ongoing commitment to process improvement and quality within the division, the Systems Integration Division (SID) is adopting this SID Policy and Standard for Quality Management. This policy will help to clarify and enhance its current practices, continue to align the organization with the Software Engineering Institute's Capability Maturity Model (SEI's CMM), and ensure compliance with the Department of Finance (DOF) Information Technology Oversight Framework (Budget Letter 03-04), dated 7 February 2003.

1.2   Applicability

[1.2.1][1] This policy shall apply to all SID projects[2] effective the date of this policy. Projects that are in the middle of an SID life cycle process[3] (at the effective date of this policy) are required to demonstrate due diligence in complying with this policy within 30 days, to the degree that it does not jeopardize their ability to satisfy prior project commitments.

[1.2.2] The SID Assistant Director shall consider special situations for non-compliance on a case-by-case basis.

[1.2.3] Projects requesting a waiver from the requirements in this policy shall comply with the Deviation/Waiver Process (iManage SIDdocs #2484).

[1.2.4] Projects that are in the Maintenance and Operations (M&O) life cycle phase shall, at a minimum, assess and report compliance with this policy on an annual basis.

[1.2.5] All other projects shall, at a minimum, assess and report compliance with this policy at the start of a new life cycle phase.

---

[1] Brackets [] are used as a reference designator for explicitly stated policy requirements ("shall's"). The numbers in the brackets are included in the SID Compliance Toolbox (iManage SIDdocs #2093) using a policy reference designator (e.g. PM Policy-1.2.1) for ease of verification and traceability to applicable CMM and TOSU requirements.

[2] In this document, SID Projects refer only to projects of a statewide nature (e.g. CWS/CMS, CMIPS, EBT, ISAWS, SFIS, etc.) and not to software release projects that are part of a routine Maintenance & Operations life cycle, or internally created projects and initiatives.

[3] The SID Best Practices web site defines the typical life cycle for software acquisition projects in the organization. Definitions for each life cycle phase are available at www.bestpractices.cahwnet.gov/processes.htm.

1.3   References

The following documents were used in the creation of this policy:

- Information Technology Oversight Framework, Budget Letter 03-04, dated 7 February 2003, Department of Finance – Technology Oversight and Security Unit.

- Software Acquisition Capability Maturity Model (SA-CMM), Version 1.02, April 1999, Software Engineering Institute.

  - Key Process Area 2.6 – Evaluation
  - Key Process Area 3.1 – Process Definition & Maintenance
  - Key Process Area 3.2 – Project Performance Management
  - Key Process Area 3.3 – Contract Performance Management

- SID Policy on Project Management, iManage SIDdocs #2453, 23 February 2004, Systems Integration Division (SID).

- SID Policy on Requirements Management, iManage SIDdocs #2451, TBD, SID.

- SID Policy on Contract Management, iManage SIDdocs #2459, TBD, SID.

- ANSI/IEEE Standard 730-2002 – IEEE Standard for Software Quality Assurance Plans, September 12, 2002, Institute of Electrical and Electronics Engineers (IEEE).

- Best Practices Support Group (BPSG) Project Plan, iManage SIDdocs #1689, 23 October 2003.

- Best Practices Web Site (BPweb), Systems Integration Division (SID), http://www.bestpractices.cahwnet.gov.

  - Glossary and Acronyms, BP website, SID.

1.4   Compliance Verification

[1.4.1] The SID Best Practices Support Group (BPSG) shall assess compliance to this policy at least annually using the applicable categories of the SID Compliance Assessment Toolbox (iManage SIDdocs #2093). For more information on compliance assessments, refer to the BPSG Project Plan.

1.5   Relationship to Other Policies

This policy is subordinate to the SID Policy on Project Management and interfaces closely with the SID Policies on Requirements Management and Contract Management.

2   POLICY STATEMENT

It is the policy of SID to follow, adhere to, and implement proven quality management best practices in compliance with the SEI CMM methodology, the DOF IT Project Oversight Framework, and IEEE Standard 730.

[2.0.1] Project Managers shall comply with the requirements, procedures and processes referenced in this policy document.

2.1   Required Documentation

[2.1.1] Projects shall document their specific approach to quality management in a Quality Management Plan (QMP) in accordance with the SID Quality Management Plan Template (iManage SIDdocs #2515) and associated tailoring guidance on the BP website.

[2.1.2] Projects shall update and maintain their Quality Management Plan until the system is retired or terminated.

[2.1.3] Projects shall produce and manage a minimum set of quality management supporting documentation with a defined hierarchical relationship in accordance with the SID Master Project Plan (MPP) Template (iManage SIDdocs #2513).

[2.1.4] Documentation related to quality management shall be tailored and revised (as appropriate) to accommodate the differences between SID acquisition life cycle phases as defined on the BP website.

2.2   Quality Management Roles and Responsibilities

[2.2.1] The Project Manager shall designate a specific individual to fulfill the role of the Quality Manager.

[2.2.2] The Quality Manager shall be responsible for implementation of this policy and for all quality management activities, either directly or by overseeing the work of others, including the development and maintenance of the Quality Management Plan (based on the SID Quality Management Plan Template).

[2.2.3] Projects shall tailor their quality management program for project's phase within the SID Acquisition Life Cycle in accordance with the SID Quality Management Plan Template and associated tailoring guidance on the BP website.

[2.2.4] The quality management functions identified in the model functional organizational chart (defined on the BP website) shall be addressed in the Quality Management Plan.

For more information, see the model organizational chart and specific roles and responsibilities on the BP website. Depending on the size and life cycle phase of the project, multiple individuals may perform a role or a single individual may perform multiple roles.

2.3   Quality Management Training

[2.3.1] Quality Management staff shall participate in initial and refresher SID Training for Quality Management.

[2.3.2] The Quality Manager shall facilitate an orientation of the project's quality management approach as part of the project-specific training conducted for all project staff.

3   QUALITY MANAGEMENT METHODOLOGY

The SID has adopted the following quality management methodology. The major elements of the quality management methodology are as follows:

- Quality Planning
- Metrics Program
- Process Assessments
- Product Evaluations and Reviews
- Process Improvement Program

[3.0.1] The Quality Management Plan shall describe or reference the specific processes and procedures that will be used to evaluate and manage quality on the project.

3.1   Quality Planning

[3.1.1] The Quality Manager shall at each new SID life cycle phase assist the project team in developing and updating management plans by tailoring applicable SID Plan templates in accordance with the appropriate tailoring guidance provided on the BP website.

[3.1.2] The Quality Manager shall work with the Requirements Manager and Procurement Manager to establish (in the Request for Proposal (RFP), Statement of Work (SOW), and Quality Management Plan) the requirements, and criteria for evaluating and accepting work products (including documentation, processes, procedures, software, hardware, system, training, etc.) developed and delivered by the prime contractor under the terms of the contract.

[3.1.3] The Quality Manager shall work with the Project Manager and respective leads to establish (in the Master Project Plan (MPP) and Quality Management Plan) the requirements, and criteria for evaluating and accepting work products (including documentation, processes, procedures, acceptance training, etc.) developed by the project office and produced under the terms of the MPP.

[3.1.4] Projects shall develop and document a Test Strategy[4] (as part of the Quality Management Plan) to establish the framework for project/user acceptance testing of the

---

[4] The Test Strategy is used to help the project office clarify expectations with the user and sponsor (and contractor) regarding their obligations in the testing and acceptance of the new system in the user environment. The prime contractor may also prepare a Master Test Plan (as part of the contract) that describes their approach to all testing phases and the activities for which they are responsible.

software, hardware, and/or system delivered by the contractor and subsequent system releases.

[3.1.5] The Quality Manager shall work with the Project Manager, Requirements Manager, and Contract Manager to determine the reviewers and participants for the evaluation of deliverables, and testing of <u>contractor-developed</u> hardware, software, and/or system work products.

[3.1.6] The Quality Manager shall work with the Project Manager and respective leads to determine the reviewers and participants for the evaluation of <u>project office-developed</u> work products defined by the MPP.

[3.1.7] The Quality Manager shall work with their appropriate Independent Validation & Verification (IV&V) and/or Independent Project Oversight Consultant (IPOC) to establish the approach to satisfying the compliance expectations set forth by the Department of Finance and the project sponsor.

3.2   Metrics Program

[3.2.1] The Quality Management Team shall establish a metrics program (to be described in the Quality Management Plan) to define, and track measurable outcomes that will be used to determine if either the project office or the contractor is in (or out of) compliance with the stated process and product quality standards for the project, and for the baselining of processes for future process improvement activities.

For more information on the metrics guidance, refer to the Quality Management Plan Template and associated tailoring guidance on the BP website.

[3.2.2] The Quality Manager shall work with the Requirements Manager and Procurement/Contract Manager to define and document (in the RFP/SOW/contract) objective measurements to validate compliance with stated standards and/or performance requirements.

[3.2.3] The project shall collect as a minimum cost, schedule, and performance metrics as defined by the project metrics program for use in tracking and as a basis for evaluating the performance of both the project office and the contractor efforts throughout each of the project life cycle phases.

3.3   Process Assessments

[3.3.1] The Quality Management Team shall participate and work in cooperation with the SID Best Practices Group (BPSG) to ensure SID Compliance Assessments are performed on the project as defined in the Compliance Verification section of all SID policies.

[3.3.2] The status and effectiveness of the overall quality management activities[5] shall be documented and analyzed for trends periodically (such as at key development milestones, major system releases, and prior to a contract end) and reviewed with the project management team, Quality Manager, Project Manager, and SID Assistant Director.

[3.3.3] The Quality Manager shall work with the Requirements Manager and Procurement/Contract Manager to verify the contractor has documented their Software Development Life Cycle (SDLC) methodology, systems engineering standards, and enterprise architecture as applicable, and is adhering to the methodology, standards, and/or architecture.

[3.3.4] The Quality Manager shall also verify the project office is complying with SID's established acquisition life cycle [TOSU].

[3.3.5] The Quality Manager shall review the project office processes and evaluate staff (state and consultant) compliance with the processes, the Master Project Plan and associated documentation.

[3.3.6] The Quality Manager shall track issues or concerns resulting from project office and contractor process reviews in the project's issue management system.

3.4   Product Evaluations and Reviews

[3.4.1] The status of overall project quality shall be documented and reviewed at least quarterly by the project management team, Quality Manager, Project Manager, and SID Assistant Director.

[3.4.2] The Quality Management Team shall verify and validate the work products developed by the project office have met the acceptance criteria as defined in the project's documentation (e.g., Master Project Plan and Quality Management Plan).

[3.4.3] The Quality Management Team shall verify and validate that formal system reviews conducted by the contractor (including requirements reviews, design reviews, code reviews, Commercial Off-The-Shelf (COTS) analysis, and test reviews) have been conducted as defined by the RFP/SOW/contract and the project's Quality Management Plan.

[3.4.4] The Quality Management Team shall verify and validate the work products developed by the contractor have met the acceptance criteria as defined by the contract, Quality Management Plan, and/or applicable Deliverable Expectation Documents (DEDs).

[3.4.5] The Quality Management Team shall participate in formal code reviews of custom software produced for the project. [TOSU]

---

[5] It may also include reviewing the prime contractor's processes for compliance with the methodologies and standards stated in the RFP/Proposal. However, access to appropriate products/data from the prime contractor must first be established in the contract.

[3.4.6] The Quality Management Team shall periodically review product defect tracking processes and the status of resulting activities beginning with the development of the requirements specification developed by the contractor. [TOSU]

[3.4.7] The Quality Management Team shall verify and validate that the system and user documentation is consistent with the as-built (production) system.

[3.4.8] The Quality Management Team shall facilitate formal testing of the system with the users/customers prior to the system or system release being placed into production.

[3.4.9] The Quality Manager shall oversee formal acceptance testing by county users as defined in the project Quality Management Plan [TOSU].

[3.4.10] The Quality Manager shall submit to the user for formal approval the test results for the completed system [TOSU]. Formal user approval may also be requested for major system releases.

[3.4.11] The Quality Manager shall verify acceptance test signoff documentation is received before the system or system release is approved for production [TOSU].

[3.4.12] The Quality Manager shall support and track activities related to the final acceptance of the software, hardware, and/or system and after major system releases, and report status of activities to the Project Manager, Sponsor and users regarding the recommendation for software, hardware, and/or system acceptance.

[3.4.13] Projects shall assess sponsor and county staff satisfaction at key product milestones, major system releases, and reviews to identify, incorporate, and implement feedback that the Project Manager will ultimately use for final acceptance of the system [TOSU].

3.5 Process Improvement Program

[3.5.1] The Quality Management Team shall establish a process improvement program (to be described in the Quality Management Plan) that integrates with the SID process improvement program, conducted by the Best Practices Support Group (BPSG), for ensuring a culture of continuous process improvement throughout the SID organization.

[3.5.2] The Quality Manager shall participate in division-level workgroups such as Quality Assurance Work Groups (QAWGs), Process Action Teams (PATs), and Lessons Learned workgroups as directed by the Management Steering Counsel (MSC).

[3.5.3] The Quality Manager shall facilitate lessons learned efforts, and collect lessons learned from project stakeholders as a way to update and enhance project processes as a part of the project's on-going process improvement program.

[3.5.4] The Quality Manager shall forward lessons learned to the BPSG for inclusion into the division repository and, if appropriate, SID policies and templates.

[3.5.5] Projects shall assess sponsor and county staff satisfaction at key project milestones and after major system releases to identify, incorporate, and implement lessons learned into the project's process [TOSU].